

Amendments to the Specification:

Page 11, amend the paragraph beginning on line 8 to read as follows:

The plasma processing system has a system condition detector unit 8. For example, the condition detector unit 8 has a current or voltage detector, a current/voltage phase ~~different~~-difference detector, a power travelling wave detector, a reflected wave detector, an impedance monitor and the like, respectively mounted on a power supply path to the plasma generating unit 6.

Page 13, amend the paragraph beginning on line 20 to read as follows:

In this embodiment, on the side wall of the chamber 1, a light emitting unit 203 for emitting light into the chamber and a light receiving unit 202 for receiving light in the chamber 1 (quartz glass cover 201) are mounted. In this embodiment, a reflective member 204 is mounted on the inner wall of the chamber 1 in order to reflect light emitted by the light emitting unit toward the light receiving unit.

Page 14, amend the paragraph beginning on line 20 to read as follows:

On the side wall of the chamber 1 on the side of the light receiving unit 202 and light emitting unit 203, a reflective member 204 is provided for receiving light in the chamber 1 (quartz glass cover-~~202~~ 201) and reflecting it toward the light receiving unit 202. The reflective member 204 is mounted outside the quartz glass cover 201 in order to suppress byproducts generated by plasma and reaction byproducts from being attached and from etching the cover. In this embodiment, although the reflective member 204 is formed by a mirror surface body having a large surface reflectivity, the reflective member is not limited only thereto, but a

member satisfying the requested performance specification may be selected. It is necessary to dispose the reflective member at such a position that reflected light can be received by the light receiving unit 202 at a sufficient intensity and amount. If this conditions are satisfied, the position is not limited to the side wall on the side opposite to the light receiving unit 202 and light emitting unit 203 as in this embodiment, but it may be disposed inside the quartz glass cover 201 or at the upper inner surface of the chamber 1.

Page 19, amend the paragraph beginning on line 10 to read as follows:

The light reflected by the reflective member 204 transmits through the quartz glass cover 201 twice and thereafter is received by the light receiving unit 202 via the quartz glass end member 304 (a). The light is then transmitted in the light receiving fiber 205 and supplied to the analyzer unit 403 connected to the light receiving fiber 205. The analyzer unit 403 analyzes the supplied light into spectra at respective frequencies (wavelengths) by using an emission light spectrometer 404. The analyzed spectra intensities and amount and the characteristics are transmitted to a calculator (calculation processor) ~~403~~405 which calculates light information. The calculated light information is stored in an unrepresented memory to be used for controlling the operation of the system at a later time. In this embodiment, although the analyzer unit including the emitted light spectrometer 404 and calculation processor 405 and the while light source 402 constitute the condition detector unit 8, they may constitute the controller 9.